

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

10/510912  
DT04 Rec'd PCT/PTO 08 OCT 2004

Applicants: Flores, Osvaldo A. et al.

Serial No. To Be Assigned

Art Unit: \_\_\_\_\_

Filed: On Even Date Herewith

Examiner: \_\_\_\_\_

For: HEPATITIS C VIRUS ASSAY SYSTEMS

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

**INFORMATION DISCLOSURE STATEMENT  
 UNDER 37 CFR 1.97**

Sir:

1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).
2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.
3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.
4. Pursuant to the waiver by the Office of the requirement under 37 CFR 1.98 (a)(2)(i) dated July 11, 2003, if the filing date of this application is after June 30, 2003, copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

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 DATE OF DEPOSIT October 8, 2004  
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.

MERCK &amp; CO., INC.

By \_\_\_\_\_ Date \_\_\_\_\_

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## INFORMATION DISCLOSURE STATEMENT

5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

RELATED APPLICATION		
U. S. SERIAL NUMBER	FILING DATE	MERCK CASE

If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

the attached information is filed within three months of the filing date of the captioned case.

the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.

the attached information is being filed more than three months after the filing date and after the mailing of a first Office Action on the merits, but before the mailing date of a Final Action or Notice of Allowance. The enclosed authorization is therefore given to charge Deposit Account No. 13-2755 for the fee required under 37 C.F.R. 1.17(p).

the undersigned certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.

the undersigned certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,



By: Sheldon O. Heber

Attorney \_\_\_\_\_ For Applicant(s)

Reg. No. 38,179

MERCK & CO., INC.

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Date: October 8, 2004

**Substitute for form 1449A/PTO**

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 1 of 4 Attorney Docket Number 21080P

COMPLETE IF KNOWN 08 OCT 2004

10 / 510912

Application Number	10 / 5
Filing Date	
First Named Inventor	Flores, Osvaldo A. et al.
Group Art Unit	
Examiner Name	

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

Examiner  
Signature

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Sheet

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of

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COMPLETE IF KNOWN	
Application Number	0 / 510912
Filing Date	
First Named Inventor	Flores, Osvaldo A. et al.
Group Art Unit	
Examiner Name	

Attorney Docket Number 21080P

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
		Alter, H. "To C or Not To C: These Are the Questions", Blood, 1995, Vol. 85, pp. 1681-1695
		Ambler, R. "The structure of $\beta$ -lactamases", Phil. Trans. R. Soc. Lond. B. Biol. Sci., 1980, Vol. 289, pp. 321-331
		Bartenschlager, R. et al. "Nonstructural Protein 3 of the Hepatitis C Virus Encodes a Serine-Type Proteinase Required for Cleavage at the NS3/4 and NS4/5 Junctions", Journal of Virology, 1993, Vol. 67, pp. 3835-3844
		Behrens, S. et al. "Identification and properties of the RNA-dependent RNA polymerase of hepatitis C virus", The EMBO Journal, 1996, Vol. 15, pp. 12-22
		Blight, K. et al. "Efficient Initiation of HCV RNA Replication in Cell Culture", Science, 2000, Vol. 290, pp. 1972-1974
		Castelain, S. et al. "Variability of the Nonstructural 5A Protein of Hepatitis C Virus Type 3a Isolates and Relation to Interferon Sensitivity", The Journal of Infectious Diseases, 2002, Vol. 185, pp. 573-583
		Chamberlain, R. et al. "Complete nucleotide sequence of a type 4 hepatitis C virus variant, the predominant genotype in the Middle East", Journal of General Virology, 1997, Vol. 78, pp. 1341-1347
		Choo, Q. et al. "Isolation of a cDNA Clone Derived from a Blood-Borne Non-A, Non-B Viral Hepatitis Genome", Science, 1989, Vol. 244, pp. 359-262
		De Francesco, R. et al. "Biochemical and Immunologic Properties of the Nonstructural Proteins of the Hepatitis C Virus: Implications for Development of Antiviral Agents and Vaccines", Seminars in Liver Disease, 2000, Vol. 20, pp. 69-83
		Failla, C. et al. "Both NS3 and NS4A Are Required for Proteolytic Processing of Hepatitis C Virus Nonstructural Proteins", Journal of Virology, 1994, Vol. 68, pp. 3753-3760
		Farci, P. et al. "Early changes in hepatitis C viral quasispecies during interferon therapy predict the therapeutic outcome", Proc. Natl. Acad. Sci. USA, 2002, Vol. 99, pp. 3081-3086
		Grahovac, B. et al. "Dynamics of serum hepatitis C virus load and quasispecies complexity during antiviral therapy in patients with chronic hepatitis C", Journal of Clinical Virology, 2001, Vol. 20, pp. 85-89
		Grakoui, A. et al. "A second hepatitis C virus-encoded proteinase", Proc. Natl. Acad. Sci. USA, 1993, Vol. 90, pp. 10583-10587
		Grakoui, A. et al. "Expression and Identification of Hepatitis C Virus Polyprotein Cleavage Products", Journal of Virology, 1993, Vol. 67, pp. 1385-1395
		Hijikata, M. et al. "Proteolytic processing and membrane association of putative nonstructural proteins of hepatitis C virus", Proc. Natl. Acad. Sci. USA, 1993, Vol. 90, pp. 10773-10777

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Sheet

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COMPLETE IF KNOWN	
Application Number	107510912
Filing Date	
First Named Inventor	Flores, Osvaldo A. et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	21080P

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
		Honda, M. et al. "Structural Requirements for Initiation of Translation by Internal Ribosome Entry within Genome-Length Hepatitis C Virus RNA", Virology, 1996, Vol. 222, pp. 31-42
		Iwarson, S. "The natural course of chronic hepatitis C", FEMS Microbiology Reviews, 1994, Vol. 14, pp. 201-204
		Kadonaga, J. et al. "The Role of the $\beta$ -Lactamase Signal Sequence in the Secretion of Proteins by <i>Escherichia coli</i> ", The Journal of Biological Chemistry, 1984, Vol. 259, pp. 2149-2154
		Kew, M. "Hepatitis C virus and hepatocellular carcinoma", FEMS Microbiology Reviews, 1994, Vol. 14, pp. 211-219
		Kolykhalov, A. et al. "Hepatitis C Virus-Encoded Enzymatic Activities and Conserved RNA Elements in the 3' Nontranslated Region Are Essential for Virus Replication In Vivo", Journal of Virology, 2000, Vol. 74, pp. 2046-2051
		Kolykhalov, A. et al. "Identification of a Highly Conserved Sequence Element at the 3' Terminus of Hepatitis C Virus Genome RNA", Journal of Virology, 1996, Vol. 70, pp. 3363-3371
		Kuo, G. et al. "An Assay for Circulating Antibodies to a Major Etiologic Virus of Human Non-A, Non-B Hepatitis", Science, 1989, Vol. 244, pp. 362-364
		Lohmann, V. et al. "Biochemical and Kinetic Analyses of NS5B RNA-Dependent RNA Polymerase of the Hepatitis C Virus", Virology, 1998, Vol. 249, pp. 108-118
		Lohmann, V. et al. "Mutations in Hepatitis C Virus RNAs Conferring Cell Culture Adaptation", Journal of Virology, 2001, Vol. 75, pp. 1437-1449
		Lohmann, V. et al. "Replication of Subgenomic Hepatitis C Virus RNAs in a Hepatoma Cell Line", Science, 1999, Vol. 285, pp. 110-113
		Mizushima, H. et al. "Analysis of N-Terminal Processing of Hepatitis C Virus Nonstructural Protein 2", Journal of Virology, 1994, Vol. 68, pp. 2731-2734
		Pawlotsky, J. "Hepatitis C virus (HCV) NS5A protein: role in HCV replication and resistance to interferon- $\alpha$ ", Journal of Viral Hepatitis, 1999, Vol. 6, Suppl. 1, pp. 47-48
		Pietschmann, T. et al. "Characterization of Cell Lines Carrying Self-Replicating Hepatitis C Virus RNAs", Journal of Virology, 2001, Vol. 75, pp. 1252-1264
		Simmonds, P. "The origin and evolution of hepatitis viruses in humans", Journal of General Virology, 2001, Vol. 82, pp. 693-712
		Takamizawa, A. et al. "Structure and Organization of the Hepatitis C Virus Genome Isolated from Human Carriers", Journal of Virology, 1991, Vol. 65, pp. 1105-1113

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Sheet 4 of 4 Attorney Docket Number 21080P

## NON PATENT LITERATURE DOCUMENTS

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